

WHAT IS CLAIMED IS:

1. A system, comprising:
 - a plurality of time elements;
 - a time manager connected to the time elements;
 - wherein the time manager provides an accurate initial time information seed to the connected time elements;
 - wherein the time elements derive, from the initial time information seed fed thereto and previously calculated delay information from the time manager to the time elements, a global machine time, such global machine time being a function of the calculated time delay from the time manager and the initial time information seed.
2. The system recited in claim 1 wherein the time manager is connected to a stratum-2 clock source.
3. The system recited in claim 1 wherein each one of the time elements determines the global machine time as a function of a calculation time taken by such time element to make the determination.
4. The system recited in claim 3 wherein the initial time information seed is passed from the time manager to the time elements in series.
5. A data storage system for transferring data between a host computer/server and a bank of disk drives through a system interface, such system interface comprising:
 - a plurality of directors, one portion thereof being coupled to the host computer/server and another portion thereof being coupled to the bank of disk drives, such directors controlling a flow of data between the host computer/server and the bank of disk drives, each one of the directors having a time element;
 - a time manager for providing accurate time information to the time elements;
 - wherein the time elements determine, from the time information fed thereto, global machine time information for the one of the directors having such time element.

6. A data storage system for transferring data between a host computer/server and a bank of disk drives through a system interface, such system interface comprising:

a plurality of directors, one portion thereof being coupled to the host computer/server and another portion thereof being coupled to the bank of disk drives, such directors controlling a flow of data between the host computer/server and the bank of disk drives, each one of the directors having a time element;

a time manager connected to the time elements;

wherein the time manager provides accurate time information to the connected time elements;

wherein the time elements determine, from the time information fed thereto, global machine time for the one of the directors having such time element; and

wherein each one of the time elements determines the global machine time as a function of time delay from the time manager to such one of the time elements.

7. The system recited in claim 6 wherein each one of the time elements determines the global machine time as a calculation of initial time provided by the time manager and the previously measured delay of information transport, and time taken by such time element to make the determination.

8. The system recited in claim 7 wherein the time information is passed from the time manager to the time elements in series.

9. A data storage system for transferring data between a host computer/server and a bank of disk drives through a system interface, such system interface comprising:

a plurality of directors, one portion thereof being coupled to the host computer/server and another portion thereof being coupled to the bank of disk drives, such directors controlling a flow of data between the host computer/server and the bank of disk drives, each one of the directors having a time elements, the time elements of the plurality of directors being serially connected together;

a time manager serially connected to a first one of the serially connected time elements;

wherein the time manager provides accurate time information to a first one of the serially connected time elements;

wherein the first one of the serially connected time elements determines, from the time information fed thereto, global machine time for the one of the directors having such time element; and

wherein the time information is passed to the serially connected time elements, each one thereof providing the global machine time for the one of the directors having such one of the time elements.

10. The system recited in claim 9 wherein the time information is passed sequentially to the serially connected time elements.

11. The system recited in claim 9 wherein each one of the time elements determines the global machine time as a function of time delay from a preceding one of the serially connected time elements to such one of the time elements.

12. The system recited in claim 11 wherein each one of the time elements determines the global machine time as a function of a calculation time taken by such time element to make the determination.

13. The system recited in claim 11 wherein the time delay is a predetermined time delay.

14. The system recited in claim 12 wherein the calculation time is a predetermined time.

15. The system recited in claim 14 wherein the time information is passed back to the time manager from one of the time elements.

16. The system recited in claim 14 wherein the time information is passed back to the time manager from the last one of the time elements in the series thereof.